

## ABSTRACT

A direct current (DC) offset estimation, frequency offset estimation, and compensation system (200), receives data packet (204) with preamble (206). A DC offset estimator (210) and a frequency offset estimator (212) operate concurrently to produce estimates of DC and frequency offsets of the data packet (204), which are determined from a portion of the preamble (206) as it is received. As the data packet (204) is received, a compensator (214) receives the estimates of DC and frequency offsets and compensates the remaining portion of the data packet (204) to produce a DC and frequency compensated data packet (218). Concurrent operation of the DC estimator (210) and the frequency offset estimator (212) advantageously allows more time to produce the estimates of DC and frequency offsets.